**P. maculata** Lec. (*Acrepis*) Ann. Lyc., V, p. 213.

Piceous-æneous, shining, sparsely clothed with cinerous pubescence. Head and thorax globose, the latter narrower behind, truncate and margined, densely punctured. Elytra parallel cylindrical, not wider than the thorax, rugosely punctured, suture, margin and three spots on each white. Length .34 inch ; 8.5 mm.

The first spot is humeral, the second median, the third narrow, lunate and near the tip.

Notwithstanding the view expressed to me by Dr. LeConte, I suspect that this and the next species will prove to be one.

**P. quadrisignata** Horn, (*Acrepis*) Trans. Am. Ent. Soc., 1868, p. 135.

Æneous, shining, sparsely pubescent. Thorax not densely punctate. Elytra variable in color, surface moderately densely punctured and rugulose. Body beneath moderately densely punctulate, sparsely pubescent. Abdomen æneous at the sides, rufous at the middle, sparsely punctulate. Legs æneous. Length .22–.36 inch ; 5.5–9 mm.

*Var.* ——. Elytra blue with a small red humeral spot.

*Var. quadrisignata* Horn Elytra blue with a humeral and subapical red spot.

*Var.* ——. Elytra blue, lateral margin red, uniting the humeral and subapical spots, the spots also larger in size.

*Var.* ——. Similar to preceding, with the suture also red, and a small blue spot appears in the centre of the apical spot.

*Var.* ——. The red color still further extends, so that the elytra are red with three blue spots, one at basal third, one behind the middle, and one apical.

Occurs in Mariposa County, California.

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## *Synopsis of the* Colydiidæ *of the United States.*

By George H. Horn, M.D.

(*Read before the American Philosophical Society, April* 19, 1878.)

The first arrangement of the genera of this family is due to Erichson, who created it, associating genera whose aggregate possesses very little homogeneity, no less in form and general external appearance than in more important structural characters. The family appears to be composed of a certain number of genera which form natural groups or tribes, as the *Synchitini* and *Colydiini*, around which are arranged other tribes composed of genera with feeble alliances among themselves and which seem to be like *Cupes* and *Rhysodes*, either relics of pre-existing faunæ or indifferentiated in characters so that whatever position may be assigned them

in an attempted linear arrangement of genera they will be equally out of place.

There is very little to be added to the generalities of the family beyond what Lacordaire and Duval have given, several characters of limited occurrence remain to be noticed. The position of the antennæ varies in the different genera. In *Corticus, Rhagodera* and their allies the antennæ are for this family very distant from the eyes, and under a rather wide frontal margin. In the following tribes the antennæ gradually approach the eyes so as to be nearly in contact with them, the frontal margin disappears, finally the sides of the front are acutely notched and the antennæ become frontal in their insertion. It seems not to have been observed that the anterior coxæ are open behind in a large number of genera; this seems to me a character of considerable importance and considerable use has been made of it in the following pages. The ventral segments are said to be fixed and immovable, except the last two; this also needs correction for a large number of genera.

The anterior and posterior coxæ are always small and globular, the former in several genera contiguous, the latter always separated although at times narrowly. The posterior coxæ vary from transverse to oval or round, and are *never* contiguous although at times narrowly separated, often very widely distant.

Erichson and those who follow him use the supposed greater length of the first ventral segment as a means of separating the *Colydiides* from the *Synchitides*. Very little observation will convince any one that this character has in the first place no such value and it moreover does not exist where it should, and I have been greatly surprised at finding the actual condition of the posterior coxæ and first ventral segment of *Corticus tauricus*, which should by Erichson's system be a *Bothrideride*.

In studying *Discoloma Fryi* and *Hyberis* n. sp.* I noticed a structure of the under surface of the body which is entirely at variance with the present family and rather anomalous among Coleoptera. In all the genera of Colydiidæ the posterior coxæ are closed externally in part by the metasternal side pieces, sometimes the latter are curved inwards at the posterior end to meet the coxæ, but in the two genera above mentioned the posterior coxæ are exceptionally small and their cavities are excavated in the posterior edge of the metasternum and anterior edge of the first ventral segment, so that the coxæ are completely surrounded and the metasternal side pieces are distant from the outer edge of the coxæ, the suture in *Discoloma* being obliterated. This structure with the three-jointed tarsi

* The *Hyberis* here mentioned is one given by Mr. Fry to Dr. LeConte labeled Cape of Good Hope. It is a black opaque species, of the general form of a *Coccinella*, surface roughly punctured and sparsely clothed with grayish pubescence, the elytral margin with small spots of black pubescence. The thorax has on each side an arcuate elevated line parallel with but distant from the margin. The abdomen is somewhat injured but there are five distinct segments; all are distinctly movable and there appears to be a *sixth* ventral segment pushed by some accident within the abdomen. To this I would call the attention of those possessing good specimens.

mark these two genera as members of another family which may be called Discolomidæ.

*Mychocerus* and *Murmidius* must also form a distinct family following the example of Duval.

The arrangement followed in the present paper, although substantially that of Erichson, is based on other characters which appear to me more natural and constant. I have added a new tribe, *Rhagoderini*, to contain those genera without retractile antennæ, and also *Deretaphrini* for those genera with the anterior coxæ contiguous or very nearly so. The tribes thus become increased to seven and are distinguished as follows:

Antennæ perfoliate, not retractile, distant at base from the eyes..... **Rhagoderini.**

Antennæ capitate, retractile, arising close to the eyes.

Last joint of palpi not acicular.

Anterior coxæ slightly separated. Head horizontal.

First joint of tarsi short..... **Synchitini.**

First joint of tarsi longer than the second..... **Colydiini.**

Anterior coxæ contiguous or very nearly so. Head deflexed..... **Deretaphrini.**

Anterior coxæ distant.

Antennæ arising under a frontal margin. First ventral segment not elongate. Trochanters free..... **Pycnomerini.**

Antennæ free at base. First ventral elongate. Trochanters closely connate with the femora..... **Bothriderini.**

Last joint of palpi acicular.

First ventral elongate. Antennæ free at base..... **Cerylonini.**

### Tribe I. RHAGODERINI.

Antennæ perfoliate, inserted under the frontal margin at a distance from the eyes, not capitate nor retractile. Anterior coxæ small, rounded, moderately separated by the prosternum, which is more elevated than the coxæ, and slightly dilated behind them. Middle coxæ more distant than the anterior. Posterior coxæ oval, small, variably distant, their cavities partially closed externally by the metasternal side pieces which are narrow. Tarsi short, the first three joints not longer than the fourth. Abdominal segments gradually decreasing in length, the fourth, however, shorter than the fifth. Tibiæ without terminal spurs.

In the above characters a certain number of genera agree, important differences, however, are found, which, with the increase of the number of the genera, will warrant the division of the tribe into several. First in importance is the structure of the anterior coxæ, which are very plainly open behind in *Rhagodera* and *Corticus*, and closed in *Anchomma*. The eyes exhibit the next important difference. In the two

genera first mentioned, the eyes are round, moderately prominent, coarsely granulated, and in *Anchomma* small, not prominent, and completely divided by the sides of the head.

These characters seem to indicate two sub-tribes.

Anterior coxæ open behind. Eyes entire.....sub-tribe RHAGODERINI.
Head narrowed behind, forming a distinct neck.....**Rhagodera.**
Anterior coxæ closed behind. Eyes divided.....sub-tribe ANCHOMMINI.
Head not narrowed behind.....**Anchomma.**

The latter genus appears not to have any allied form yet described. *Rhagodera* is plainly akin to *Corticus*, and probably *Sarrotrium* and *Diodesma*, which I have not examined in nature. In *Corticus* the head is not narrowed behind into a neck, and the posterior coxæ are so placed that even the most poetic imagination cannot call them contiguous, they are really distant, and this one fact goes far in exhibiting the entire absence of accuracy and fact in the characters used by Erichson in defining his tribes.

The genera representing this tribe in our fauna are from the Pacific Region.

### RHAGODERA Erichs.

Antennæ inserted under the margin of the front, not retractile, 11-jointed, moderately short, slightly flattened, joints perfoliate, sparsely clothed with short, scale-like hairs; first joint more slender, and not longer than second, third joint nearly as long as the three following together; joints 4–10 transverse, very gradually broader, eleventh narrower than the tenth and oval acuminate at tip. Head horizontal, as broad as long, sides of front dilated over the insertion of the antennæ, suddenly narrowed behind. Eyes entire, coarsely granulated, moderately prominent. Mentum transverse, gula deeply emarginate, its angles acutely prolonged to the front, it sides forming a distinct ridge beneath the eyes. Maxillæ visible beneath. Labrum short, transverse, almost entirely concealed by the epistoma, the latter feebly emarginate at middle. Thorax as wide as the elytra, apex emarginate, base arcuate at middle, and acutely sinuate on each side, side margin acute, serrate. Elytra oblong, humeral angles moderately prominent, disc acutely carinate. Scutellum small. Anterior coxæ small, moderately distant, prosternum more elevated than the coxæ. Posterior coxæ narrowly separated, intercoxal process moderately long, obtusely rounded at tip. Abdominal segments 1–4 gradually shorter, fifth slightly longer than the fourth. Tibiæ slender, but gradually broader to tip. Apex fimbriate with short spinules without terminal spurs. Tarsi short, clothed beneath with

short bristles, 1–3 gradually decreasing in length, fourth nearly as long as the preceding together, and with rather stout claws.

I have already (Proc. Am. Ent. Soc. 1867, p. 293), called attention to a certain amount of confusion between *Usechus* and *Rhagodera*. The history of the two genera is in short as follows: Eschscholtz used the name *Rhagodera tuberculata* for an insect in the Dejean collection, and the name was published in the third edition of the Catalogue without description. Mannerheim, in 1843, published in few words, a description as that of *Rhagodera tuberculata*. This is the first publication, and has priority. In 1845, Motschulsky described and figured *Usechus lacerta*. This is also a correct description and figure. While in London, in 1874, I saw that part of Dejean's collection containing the original of the name *Rhagodera*, and found it to be the same as *Usechus lacerta*. Motschulsky probably saw this same specimen in Mr. E. W. Janson's possession, and was thereby induced to pronounce his insect synonymous.

*Rhagodera* and *Usechus* must be allowed to stand in the sense in which they are at present used, and the name on the Dejean specimen go for naught.

Two species are known to me.

Thorax arcuate on the sides, hind angles rectangular.....tuberculata.
Thorax strongly sinuate, hind angles acute, prominent.....costata.

**Rh. tuberculata** Mann. Bull. Mosc. 1843, II, p. 300; Horn, Proc. Am. Ent. Soc. 1867, p. 293.

Oblong depressed, brownish, sub-opaque. Head sparsely granulate, each granule with a small scale-like hair. Thorax broader than long, sides regularly arcuate, and gradually narrowed to base, margin serrate, and with short, scale-like hairs, hind angles rectangular, not prominent, base arcuate at middle, on each side serrate within the angles; disc strongly bicostate, costæ arcuate, and convergent at apex and base, surface very sparsely granulate, and with scale-like hairs. Elytra oblong, humeri rectangular, suture, margin and the discal costæ acutely elevated, intervals with two rows of large cribriform punctures. Body beneath sparsely granulate, and with few scales. Legs sparsely clothed with short, scale-like hairs. Length .22–.28 inch; 5.5–7 mm.

In well preserved clean specimens the summits of the elytral costæ have erect scales rather distantly placed, and between these are shorter capitate scales.

Occurs usually under bark from Alaska to San Diego and Arizona, and not common.

**Rh. costata** Horn, Proc. Am. Ent. Soc. 1867, p. 293.

This species resembles in all essential characters the preceding and differs in having the thorax rather deeply sinuate posteriorly, the hind angles acute and prominent. Length .34 inch; 8.5 mm.

In both species the frontal margin is acutely serrate.

Occurred at Gila Bend Station, Arizona. The measurement previously given by me is a little too great.

### ANCHOMMA Lec.

Antennæ inserted under the margin of the front, eleven-jointed, not retractile, moderately stout, slightly flattened, joints perfoliate, sparsely clothed with scale-like hairs; first joint short, obconical, second transverse, third as long as the next two together, four to nine transverse, equal, tenth somewhat larger, eleventh smaller and narrower than the tenth, truncate at tip. Head horizontal, oblong, sides parallel at middle, gradually narrowed at apical third, posteriorly rather suddenly narrowed. Eyes small, flat, divided by the side of the head, upper portion linear, lower portion very small. Mentum oval, supported by a distinct peduncle; sides of genæ triangularly prolonged in front and continuing posteriorly in a ridge. Maxillæ not concealed, palpi moderately long, last joint longer than the preceding, truncate at tip. Labrum not visible beyond the clypeus. Anterior coxæ small, moderately distant, less prominent than the prosternum. Posterior coxæ separated by a quadrangular process arcuate in front. Legs slender, tibiæ fimbriate at tip with short spinulose hairs, without spurs. Tarsi short, sparsely hairy beneath, first three joints gradually decreasing in length, fourth joint as long as the first three and with stout claws. Abdomen with first three segments gradually shorter, fourth very short, fifth as long as third.

**A. costatum** Lec. Proc. Acad. 1858, p. 63; Journ. 1858, pl. 1, fig. 18.

Form elongate, color variable, piceous to pale brown, opaque. Head granulate, front finely carinate, sparsely clothed with yellowish scale-like hairs. Thorax very little longer than wide, apex and base equal, sides very feebly arcuate, margin acute, disc with three parallel costæ near the middle the central finer, surface as in the head. Elytra with the suture moderately elevated, and with three discal costæ and margin acutely prominent, intervals biseriately coarsely punctured. Body beneath coarsely but sparsely punctate, sparsely clothed with scale-like hairs. Length .16 inch; 4 mm.

Occurs from San Diego to Owen's Valley, California, and rather abundant in the latter locality.

## Tribe II. **SYNCHITINI.**

Antennæ capitate, retractile, inserted under the frontal margin a short distance in front of the eyes. Head horizontal, eyes usually round, moderately prominent, entire, rarely (*Phlœonemus*) emarginate by the sides of the front. Anterior coxæ small, rounded, narrowly separated, usually a little more prominent than the sternum between them. Middle coxæ moderately distant. Posterior coxæ transverse, attaining the margin of the body, separated by a triangular abdominal process. Metasternal side pieces narrow, rarely (*Eudesma*) concealed by the elytra. Abdominal segments decreasing gradually in length, and in *Cicones* distinctly mobile. Tarsi short, first three joints subequal, together not longer than the fourth.

The genera of this tribe in our fauna are represented by species the sculpture of which is more or less coarse, either costate or granulate, opaque and pubescent.

Here also we have differences in the structure of the anterior coxal cavities, all excepting two have these open behind. The other characters in which differences occur are those of generic value merely. The tribe as here defined is homogeneous and scarcely merits further division.

The genera are:

Anterior coxal cavities open behind.
- Antennæ 10-jointed, club solid.
  - Head without antennal grooves ..... **Synchita.**
  - Head with distinct grooves ..... **Cicones.**
- Antennæ 11-jointed, club 2-jointed.
  - Eyes free rounded.
    - Head without antennal grooves ..... **Ditoma.**
    - Head with distinct antennal grooves.
      - Tibiæ with distinct terminal spurs ..... **Eudesma.**
      - Tibiæ without terminal spurs ..... **Endophlœus.**
  - Eyes emarginate by the sides of the front.
    - Antennal grooves distinct ..... **Phlœonemus.**

Anterior coxal cavities closed behind.
- Antennæ with a 2-jointed club. No tibial spurs ..... **Coxelus.**
- Antennæ with a 3-jointed club. Small tibial spurs ..... **Lasconotus.**

### **SYNCHITA** Hellw.

Antennæ 10-jointed, terminated by an abruptly larger joint which is glabrous at base, pubescent at tip. Head beneath without antennal grooves. Tarsi stout, first three joints very short, but little longer than half the fourth, clothed beneath with short pubescence. Tibiæ slender with minute terminal spurs.

PROC. AMER. PHILOS. SOC. XVII. 101. 3R. PRINTED JUNE 1, 1878.

Our species are as follows :

Elytra finely costate.
  Thorax with an elevated line on each side.....laticollis.
  Thorax without elevated lines.....variegata.
Elytra uniform, not costate.
  Elytra variegated with paler markings.....parvula.
  Elytra unicolorous.
    Thorax finely granulate, margin finely serrulate. A sub-apical impressed line.....fuliginosa.
    Thorax coarsely granulate, margin coarsely serrate. Without sub-apical impressed line.....granulata.

**S. laticollis** Lec. New Species, 1863, p. 66; Proc. Acad. 1866, p. 379.

Oblong, sub-depressed, piceous, opaque, humeri and a spot near the apex of the elytra rufous, body beneath and legs ferruginous. Thorax wider than long, slightly narrowed at base, surface granulate and with an elevated line on each side and a feeble impression at middle, margin obsoletely serrulate. Elytra with suture, three discal costæ and margins sub-acutely elevated, intervals biseriately granulate. Length .08 inch; 2 mm.

Occurs from New York to North Carolina, not common.

**S. variegata** Lec. Proc. Acad. 1858, p. 63.

Oblong elongate, moderately depressed, piceous, opaque, elytra ornate with pale markings. Thorax wider than long, margin very finely serrulate, narrower at apex than base, surface granulate. Elytra with suture, four discal costæ and margin acutely elevated, intervals biseriately coarsely and deeply punctured. Length .08–.10 inch; 2–2.5 mm.

Occurs at Fort Yuma, Cal.

These two species resemble each other in being costate but differ in every other particular. The thorax is narrowed to base in *laticollis*, wider at base *variegata*, elytra tricostate in the former and quadricostate in the latter, with intervals granulate in one and deeply punctured in the other.

**S. parvula** Guerin, Icon. Regn. Ins. p. 189.

Oblong, sub-depressed, piceous, opaque, elytra ornate with whitish spaces. Thorax wider than long, sides feebly arcuate, margin finely serrulate, base slightly wider than apex, surface granulate. Elytra with striæ of moderate punctures, rather closely placed, intervals granulate. Length .08–.10 inch; 2–2.5 mm.

Occurs in the Middle States, rather rare.

**S. fuliginosa** Mels. Proc. Acad. II, p. 111; *nigripennis* Lec. New Species, 1863, p. 67.

Oblong, parallel, sub-depressed, opaque. Thorax wider than long, sides scarcely arcuate, margin very finely serrulate, base and apex equal, disc

rather finely granulate, anteriorly a finely impressed sub-apical line. Elytra with striæ of moderately deep punctures, intervals slightly convex and sub-granulate. Body beneath, antennæ and legs ferruginous. Length .10 inch ; 2.5 mm.

Occurs in the Middle States region and Georgia.

**S. granulata** Say, Journ. Acad. V, p. 266.

Oblong, parallel, moderately convex, piceous, sub-opaque. Antennæ with the third joint as long as the three following together. Thorax wider than long, sides very feebly arcuate, margin serrulate, base slightly narrower than apex, disc coarsely granulate. Elytra coarsely granulate with feeble traces of striæ between the rows of granulations. Legs ferruginous. Length .16 inch ; 4 mm.

This species besides being the largest and most coarsely granulate, has the third joint of the antennæ very long while in all the other species it is but little longer than the following.

This species is widely diffused, occurring from Missouri to Pennsylvania and Georgia.

The vestiture of the surface in the first four species consists in recumbent pale, sparsely placed hairs on the head and thorax, the costæ of the elytra and the intervals have short, erect, pale setæ. In *granulata* there are no hairs on the head and thorax, while the elytra have short hairs sparsely placed which become somewhat longer on the declivity.

**CICONES** Curtis.

Antennæ 10-jointed, terminated by a club of one joint, glabrous at base, pubescent at tip, received in distinct and deep grooves which follow the inferior margin of the eye. Abdominal segments very feebly emarginate, apical angles very slightly prolonged.

This genus is closely allied to Synchita and differs in the above characters only.

**C. marginalis** Mels. Proc. Acad. II, p. 112.

Oblong-oval, piceous, opaque, depressed. Head finely granulate, sparsely pubescent, epistoma feebly emarginate. Thorax more than twice as wide as long, sides moderately arcuate, margin explanate and finely serrulate, disc granulate and sparsely pubescent. Elytra opaque, obsoletely striato-punctate, intervals flat irregularly biseriately punctate, each puncture bearing a semi-erect, short, clavate hair ; surface opaque, each elytron with four or five indistinct rufous spots. Body beneath and legs dark ferruginous. Length .10–.12 inch ; 2.5–3 mm.

Occurs from Pennsylvania to Kansas.

**C. lineaticollis,** n. sp.

Oblong-oval, piceous, opaque, depressed. Head finely granulate, sparsely pubescent. Thorax nearly twice as wide as long, sides feebly arcuate, hind angles broadly rounded, margin explanate, finely serrulate, disc at middle moderately convex, and at sides with three finely elevated lines, surface opaque, finely granulate. Elytra finely striate, striæ rather coarsely punctured, each alternate interval more convex especially at base and indistinctly granulate. Body beneath and legs dark ferruginous, sub-opaque. Length .10 inch; 2.5 mm.

This species is smaller, more elongate and depressed than the preceding and differs especially in the three fine lines on each side of the thorax and the alternation of the elytral intervals.

The specimen before me is badly rubbed and I cannot describe its vestiture.

Two specimens: South Carolina and Florida.

**DITOMA** Illig.

Antennæ eleven-jointed, inserted under the margin of the front, last two joints forming an abrupt club. Antennal grooves wanting. Eyes moderately large and convex, coarsely granulated, nearly entirely free. Tibiæ slender, feebly broader at tip and with minute terminal spurs. Intercoxal process triangular, acute.

The remaining characters are fully exposed by Lacordaire. This author speaks of the hind margins of the ventral segments being emarginate, this certainly does not occur in any species known to me. The antennæ in one species (*sulcata*) depart from the usual form in a rather suggestive manner, the ninth joint being much wider than the eighth, so that there is a feeble attempt at a triarticulate club. I follow the example of Mr. Crotch (Check List) in including *Eulachus carinatus* Lec. in *Ditoma*, notwithstanding its semi-cylindrical form. That it may fairly represent *Eulachus* I have very little doubt, but the genus seems very much out of place where Erichson left it.

Our species are as follows:

Antennæ with ninth joint not wider than the eighth.
  Form semi-cylindrical, thorax longer than wide ..... **carinata.**
  Form depressed, thorax wider than long.
    Elytra piceous black, three or four rufous spots on each.. **quadriguttata.**
    Elytra piceous, two rufous spots on each..... **ornata.**
Antennæ with ninth joint much wider than the eighth.
  Form depressed, thorax wider than long, color rufous..... **sulcata.**

As thus arranged the species show a very natural transition from *Eulesma* to *Lasconotus*, *carinata* having the semi-cylindrical form of the first, while *sulcata* by its antennæ makes a feeble approach to the second.

**D. carinata** Lec. (*Eulachus*) New Species, 1863, p. 68.

Elongate, semi-cylindrical, black, opaque. Head granulated, opaque. Thorax longer than wide, slightly narrower at base, apex feebly emarginate, angles obtusely rectangular, sides straight, margin obsoletely crenulate, base arcuate at middle, hind angles rectangular, disc convex, and with four moderately elevated carinæ, intervals granulate. Elytra parallel, not wider than the thorax, four discal carinæ moderately, margin more acutely prominent, intervals flat, biseriately, coarsely punctate and rugulose. Body beneath scabrous. Legs and antennæ rufous. Length .12 inch; 3 mm.

The elevated costæ are finely punctured at their summits, and bear short yellowish hairs. This species reproduces closely the figure given by Lacordaire (Atlas pl. 20, fig. 2) and the two may be identical, but comparison will be necessary. I do not find the first ventral segment sufficiently long to place this insect in the *Colydiini* (sec. Er.), and from the study of our genera it seems to me that Erichson had rather vague ideas as to what constituted a long segment, and that this term was used very empirically without any intention of its being literally interpreted.

Occurs in Georgia and Florida.

**D. quadriguttata** Say, Journ. Acad. V, p. 266; *Zimmermanni* Guer. Ic. Regn Ins. p. 194.

Oblong elongate, pitchy black, opaque. Head granulate, sparsely pubescent. Thorax broader than long, slightly narrower at base, apex feebly emarginate, sides nearly straight, margin obsoletely crenulate, disc with four moderately elevated carinæ, each curved inwards in front, the two median ones united, forming an arch, intervals granulate, sparsely pubescent. Elytra slightly wider than the thorax, four discal costæ and margin acutely elevated, intervals biseriately, coarsely punctured; color black, each elytron with three or four rufous spots. Body beneath pitchy black, legs brownish. Abdomen with coarse punctures longitudinally sub-confluent. Length .10–.12 inch; 2.5–3 mm.

The summits of the elytral costæ are fringed with short, yellowish pubescence.

Occurs from the Middle States to Illinois and Texas.

**D. ornata** Lec. Proc. Acad. 1858, p. 63.

This species resembles the preceding, but has a relatively narrower thorax, intervals between the elytral costæ more finely punctured, and with two rufous spots on each, one oblique at the humeri, another oval behind the middle. Length .12 inch; 3 mm.

The differences although feeble are constant, and the facies of the two species is sufficiently marked to retain them as distinct.

Occurs under bark in south-eastern California and Arizona.

**D. sulcata** Lec. Proc. Acad. 1858, p. 63.

Resembles *quadriguttata* in form, pale brownish, opaque. Elytral intervals with coarse punctures biseriately arranged, but not very closely placed. Antennæ with ninth joint one-half wider than the eighth Length .12 inch; 3 mm.

The principal difference between this and the preceding species are the uniform color, and the structure of the antennæ.

Occurs under bark with *ornata*.

**EUDESMA** Lec.

Antennæ received in repose in oblique grooves, 11-jointed, last two forming an abrupt mass, first two joints shorter, the second rather longer than the first, third slightly longer than the fourth, 4–9 sub-equal, tenth abruptly larger, semi-circular in outline, last joint narrower, oval, pubescent at tip. Head broader than long, clypeus truncate. Labrum almost entirely retracted. Eyes entire, rounded, moderately convex. Mentum transverse, slightly rounded in front. Last joint of maxillary palpi, longer than the two preceding, slightly flattened, truncate at tip. Antennal groove deep, oblique. Thorax quadrate, lobed at middle in front. Scutellum small, round. Elytra elongate, parallel, costate. Posterior coxæ transverse, intercoxal process narrow, acute at tip. Metasternal side pieces almost entirely concealed by the elytra. Abdominal segments gradually decreasing in length, fifth a little longer than the fourth, posterior margin straight. Tibiæ slender, not spinulose externally, and with minute terminal spurs. Tarsi short, first three joints nearly equal, together shorter than the fourth, beneath sparsely hairy.

I find no genus with which this may be compared, excepting *Ditoma*. *Phormesa* Pasc. differs from *Ditoma* in the same manner that this does, but the form of the body is somewhat peltiform.

**E. undulata** Mels. (*Bitoma*) Proc. Acad. II, p. 110; Lec. New Species, 1863, p. 66.

Elongate, sub-cylindrical, piceous, opaque. Head opaque, granulate, sparsely pubescent. Thorax quadrate, slightly narrowed posteriorly, apex broadly prolonged at middle, sinuate on each side, angles rectangular, sides nearly straight, margin serrulate and narrow, base arcuate at middle, hind angles rectangular, disc convex, with two obtuse costæ at middle, and two shorter between them in front; surface moderately, densely granulate and opaque. Elytra slightly wider than the thorax, parallel, apical fourth gradually narrowed, with three discal costæ and margin acutely elevated, intervals biseriately quadrate punctate, color piceous, base, narrow fascia at middle and apical third rufous, these with pale pubescence. Body beneath and legs rufous, abdomen granulato-punctate. Prothorax beneath obliquely strigose at the hind angles. Length .20 inch; 5 mm.

I have seen Melsheimer's type only, collected in Pennsylvania.

## ENDOPHLŒUS Erichs.

Antennæ 11-jointed, terminated by a two-jointed club, inserted moderately, distantly from the eyes, received in repose in oblique, antennal grooves. Head half retracted within the thorax, sides of front elevated and slightly prolonged backwards over the eyes. Eyes free, round, moderately prominent.

Thorax with explanate and serrate margins, apex slightly prolonged at middle over the head, disc costate. Elytra parallel, obtusely rounded at tip. Anterior coxæ, moderately separated, the cavities open behind. Posterior coxæ separated by a triangular acute process. Abdomen with first segment slightly longer than the others, 2–3–4 gradually shorter, fifth slightly longer than the fourth. Tibiæ slender, not spinulose externally, and without terminal spurs. Tarsi short, first three joints sub-equal, together not longer than the fourth.

**E. nosodermoides,** n. sp.

Oblong-elongate, brownish, opaque, surface coated with a brownish indument and apparently scaly. Head opaque, granulate. Thorax broader than long, sides explanate and serrulate, feebly arcuate and gradually narrowed posteriorly, hind angles slightly prominent, base lobed at middle, anterior angles slightly prolonged forward, apex at middle prolonged over the head; disc on each side costate, costæ sinuous; surface granular, opaque. Elytra not wider than the thorax, base feebly emarginate at middle, humeri obtuse, sides parallel, on each elytron four costæ, the inner sinuous, parallel for a short distance at middle terminating at the declivity in a tubercle beneath which is another tubercle, second costa very short, third costa beginning at the humerus extends to three-fourths, between its extremity and the first costa is a tubercle, fourth costa sub-marginal and longer than the others, intervals tuberculate and opaque. Body beneath

opaque, densely and rather finely granular, prothorax beneath coarsely granular. Length .30 inch; 7.5 mm.

This species reproduces in miniature the appearance of *Phellopsis obcordata*.

One specimen given me by Mr. Jas. Behrens, collected at Mount Shasta, California.

**PHLŒONEMUS** Erichs.

Antennæ eleven-jointed, last two forming an abrupt club, which is glabrous. Head broad, clypeus broadly rounded in front, sides dilated, and extending to the middle of the eyes, beneath with deep, slightly oblique antennal grooves. Eyes coarsely granulated, moderately convex. Mentum transversely quadrate, maxillary palpi with terminal joint cylindrical-compressed, longer than the preceding together and truncate at tip. Labrum retracted. Abdominal segments gradually decreasing in length, their posterior margins straight. Intercoxal process narrower in front and rounded at tip. Anterior tibiæ slightly dilated at tip, the outer margin not fimbriate. Tibiæ with distinct terminal spurs. Tarsi rather short, first three joints short and nearly equal, together shorter than the fourth, sparsely hairy beneath. Form oblong-elongate moderately convex.

**Ph. catenulatus,** n. sp.

Oblong-elongate, reddish-brown, base, apex and suture of elytra somewhat paler. Head granulate, sub-opaque. Thorax one half broader than long, apex emarginate, angles obtusely prominent in front, sides feebly arcuate in front, then straight and nearly parallel, margin slightly explanate, obsoletely crenulate, base feebly arcuate, hind angles rectangular, disc moderately convex, moderately densely granulate, surface with feeble elevated anastomosing lines. Elytra oblong, parallel, base not wider than the thorax, humeri obtuse, a sub-sutural and four discal costæ, and lateral margin acutely prominent, intervals biseriately catenulate. Body beneath paler than above, rugulose. Length .18 inch; 4.5 mm.

One specimen, collected by myself at Fort Yuma, California.

This genus was indicated by Erichson in a few words without describing the typical species. The antennæ have the first two joints stouter, the second shorter than the first; third joint slightly longer than the fourth; 4–9 very gradually increasing in length and width; 10 abruptly broader emarginate at tip, 11 transversely oval, narrower than the tenth and pubescent at tip.

**COXELUS** Latr.

Antennæ eleven-jointed, last two joints forming a sudden club. Eyes free. Head with antennal grooves beneath the eyes. Tibiæ slender without terminal spurs. Our Species are winged.

**C. guttulatus** Lec. New Species, 1863, p. 65.

Oblong-oval, blackish, opaque, moderately convex. Head granulate, sparsely pubescent. Thorax twice as wide as long, apex deeply emarginate, angles prominent in front, sides broadly arcuate, margin explanate and serrulate, hind angles obtuse, base broadly arcuate at middle on each side, feebly sinuate, surface coarsely granulate, sparsely pubescent. Elytra with rather irregular rows of moderately coarse granules, surface sparsely pubescent, each elytron with spots of more dense pubescence forming a sinuous band near the middle and another behind it. Body beneath granulate, opaque. Length .18 inch ; 4.5 mm.

This species occurs rather abundantly in the Middle States.

The margin of thorax is equally explanate at apex and base. The third joint of the antennæ is very nearly as long as the two following together. The abdomen is rather roughly granulato-punctate.

**C. pacificus**, n. sp.

Resembles the preceding in form and color but is relatively more elongate and differs besides as follows :

Thorax shorter, more transverse, margin widely explanate in front, becoming gradually less so posteriorly so that the thorax appears to become narrow behind. Abdomen coarsely but not densely punctured. Antennæ with third joint scarcely longer than the fourth, the latter not longer than the fifth. Length .18 inch ; 4.5 mm.

Occurs not uncommonly at Vancouver.

## LASCONOTUS Erichs.

Antennæ eleven-jointed, terminated by a three-jointed club, without antennal groove, first two joints stout, the first a little longer than the second, third slightly longer than the fourth, three to eight sub-equal, obconical, last three forming an abrupt club. Head broader than long. Clypeus feebly emarginate in front, at sides broadly arcuate and extending posteriorly, forming a well-defined supraorbital ridge, in one species partially concealing the eyes from above. Eyes round, rather finely granulated, moderately prominent. Thorax quadrate, quadricostate. Scutellum small. Elytra parallel, costate. Abdominal segments gradually shorter, fifth slightly longer than the fourth, intercoxal process narrow, acute. Posterior coxæ transverse. Tibiæ slightly wider toward the tips, the anterior with two spinules at the outer angle, all with small terminal spurs. Tarsi as in *Ditoma*.

This genus was founded by Erichson on an undescribed species, and but few words of diagnosis given. Its charac-

ters are, however, perfectly valid, and one, the partial concealment of the eyes, is as remarked by Mr. Pascoe (Journal of Entomology, II, p. 33) a very unusual occurrence, the sides of the clypeus either terminating in front of the eye or partially dividing it. It should, however, be stated that while this structure is well marked in one species, it becomes gradually feebler so that there is merely a supra-orbital ridge in all the others. These seem to me identical with Mr. Pascoe's genus *Illestus*.

Our species may be separated as follows:

Elytra equally costate over the entire surface.
  Thorax costate or with feebly elevated sinuous lines.
    Thorax wider than long.
      Disc of thorax costate. Eyes partially concealed.....**complex.**
      Disc with sinuous lines indicated by pubescence.....**borealis.**
    Thorax longer than wide, disc with sinuous lines.....**linearis.**
  Thorax vaguely longitudinally concave.
    Thorax longer than wide.....**simplex.**
    Thorax as wide or wider than long.....**referendarius.**
Elytra broadly longitudinally channeled, the fifth interval being strongly elevated and the first and third not so.....**pusillus.**

**L. complex** Lec. Proc. Acad., 1858, p. 282.

Oblong-elongate, blackish, opaque. Head slightly concave, an obsolete tubercle on the vertex, surface granulate. Thorax quadrate, slightly wider than long, apex trisinuate, sides feebly undulate, margin obsoletely crenulate, base arcuate at middle, hind angles rectangular, disc quadricostate, median costæ approximate in front, then arcuate outwardly and converging at their apices, between which are two smaller costæ, outer costæ slightly undulated, intervals granulated. Elytra slightly wider than the thorax, each with four discal costæ and the margin acutely elevated, intervals biseriately punctate. Body beneath opaque, abdomen punctate, scabrous. Legs ferruginous. Length .16 inch ; 4 mm.

Occurs from Punto de los Reyes, California, to Vancouver.

**L. borealis,** n. sp.

Elongate, piceous, elytra brownish, sub-opaque, sparsely pubescent. Head densely punctured, sparsely pubescent. Thorax slightly broader than long, and a little narrower at base, surface finely granulate and with sinuous feebly elevated lines. Elytra slightly wider than the thorax, disc sub-depressed, each with four costæ and the margin acutely elevated, intervals biseriately quadrately punctured. Body beneath opaque, coarsely and densely punctured. Length .12 inch ; 3 mm.

This species is closely allied to *linearis*, but is broader and

more depressed and with a wider thorax, the sculpture of which is similar in the two species.

One specimen, Marquette, Michigan. Dr. Schwarz.

**L. linearis** Crotch. Trans. Am. Ent. Soc. 1874, p. 75.

Elongate, moderately convex, pitchy black, opaque, sparsely clothed with yellowish hair. Head granulate. Thorax longer than wide, slightly narrowed toward the base, sides straight, margin crenulate, hind angles distinct, disc with three shallow foveæ, one larger anterior, two smaller at base, feebly separated by obtuse elevations, with a row of yellowish hairs on their summits, surface opaque, punctato-granulate. Elytra black, opaque, base narrowly and small sub-apical spot rufous, parallel, very little wider than the thorax, and with four discal costæ and margin feebly elevated, intervals biseriately coarsely punctate. Body beneath piceous, surface moderately densely punctate. Legs paler. Length .10–.12 inch: 2.5–3 mm.

The sculpture of the thorax of this species is nearly that described in another manner by Mr. Pascoe for *I. terrenus*.

Occurs under bark of trees at Santa Inez, California.

**L. simplex** Lec. Proc. Acad. 1866, p. 398.

Elongate, sub-cylindrical, brownish, opaque, sparsely clothed with yellowish pubescence. Head punctate, opaque. Thorax longer than wide, slightly narrowed posteriorly, sides straight, hind angles obtuse, margin simple, apical margin slightly thickened at middle, disc moderately convex, a feeble median impression, surface rather coarsely punctured. Elytra slightly wider than the thorax, suture, four discal costæ and margin subacutely elevated, intervals biseriately coarsely punctured. Body beneath moderately densely punctate, legs rufous. Length .10 inch: 2.5 mm.

This species is the smallest in our fauna, and is known by the very feeble median impression of the thorax. The punctures of the elytral intervals are quite large and crowd each other so as to appear sub-confluent transversely. The prosternum between the coxæ is very narrow.

One specimen: Cape San Lucas, Lower California.

**L. referendarius** Zimm. Trans. Am. Ent. Soc. 1869, p. 254.

Elongate, sub-depressed, piceous, opaque, sparsely pubescent. Head punctured, with a vague impression on each side separated by an obtuse elevation. Thorax longer than wide, slightly narrowed behind, sides nearly straight, margin simple, apical margin with thickened edge, hind angles obtuse, disc vaguely longitudinally impressed and with traces of two fine carinæ visible only at the apex and base of the impression, surface moderately densely punctate. Elytra not wider than thorax in front and with suture, four discal costæ and margin feebly elevated, intervals with

two rows of slightly elongate coarse punctures, each distinct. Body beneath rather coarsely punctured, first abdominal segment more coarsely than the others. Legs rufous. Length .08 inch ; 2 mm.

This species and the preceding are closely allied, but the present has a better defined thoracic concavity. The apical margin is also more distinctly thickened.

Occurs from District of Columbia to Florida.

**L. pusillus** Lec. New Species, 1863. p. 67 ; *laqueatus* Lec. Proc. Acad. 1866, p. 368.

Oblong-elongate, depressed, brownish or piceous, opaque, sparsely pubescent. Head sparsely punctulate and with a crescentic impression on each side. Thorax longer than wide, slightly narrower posteriorly, sides straight, margin entire, hind angles obtuse, apical margin thickened except at middle, and forming hook-like elevations surrounding the ends of obtuse carinæ which limit the broad median impression of the thorax, surface not densely punctured. Elytra slightly wider than the thorax, depressed variably but rather strongly costate, outer intervals biseriately coarsely punctate and also very finely punctulate. Body beneath moderately densely punctulate. Length .10–.12 inch ; 2.5–3 mm.

The elytral sculpture is variable as far as the costæ are concerned. The following forms occur:

*pusillus* Lec. type. Sutural interval feebly elevated, third interval feebly elevated at base, gradually becoming obsolete, fifth interval strongly elevated, seventh and margin less elevated than the fifth. Interval external to the fifth coarsely biseriately punctate, between the fifth and suture punctured at base, gradually becoming obsolete towards the middle.

*laqueatus* Lec. type, differs but little from the above except that the third interval is still less elevated and the coarser punctures less evident.

—— ——. Specimens from Vancouver have the coarse punctures in the interspaces between the fifth interval and the suture continued distinctly to the apex.

Occurs from Florida to Arizona and Vancouver.

### Tribe III. **COLYDIINI.**

Antennæ capitate, retractile, inserted usually under a frontal margin at a short distance in front of the eyes. Head horizontal, eyes coarsely granulated, feebly prominent. Anterior coxæ small, moderately separated by a slightly elevated prosternum, the cavities closed behind, except in *Aglenus*. Middle coxæ moderately distant. Posterior transverse narrowly separated. Metasternal side pieces variable in width, or even concealed. Abdominal segments gradually decreasing in length, the fourth shorter than the fifth. Tarsi moderately long, the first joint as long or longer than the next two together, the three longer than the fourth.

This tribe differs from the preceding in the greater length of the first three tarsal joints and the comparatively smooth and glabrous surface of all the species. The difference founded on the greater length of the first abdominal segment is illusory.

The following genera occur in our fauna:

Anterior coxæ narrowly closed behind, prosternum at tip attaining the posterior margin.....Group **COLYDII.**
Metasternal side pieces moderate. Anterior tibiæ finely denticulate at outer apical angle.....**Aulonium.**
Metasternal side pieces linear. Anterior tibiæ with outer apical angle prolonged.....**Colydium.**
Anterior coxæ broadly closed behind, the epimera meeting on the median line, prosternum not attaining the margin....Group **NEMATIDII.**
Metasternal side pieces covered.....**Nematidium.**
Anterior coxæ open behind. Head without eyes.....Group **AGLENI.**
Metasternal side pieces narrow.....**Aglenus.**

It is possible that the groups above indicated should be raised to the rank of tribes with the introduction of foreign genera. The most curious character presented by any of the above genera occurs in *Nematidium*, in which the arrangement of the posterior margin of the thorax beneath reproduces the normal structure of the Rhynchophora. This character was observed by me in 1870, while seeking for allies of *Cossyphus* in the present family, the latter having a similar sternal structure.

*Aulonium* is the only genus with representatives on both sides of the continent, although our one species of *Colydium* extends to Vancouver. *Nematidium* occurs only in the Southern States, while *Aglenus* has probably been introduced.

### **AULONIUM** Erichs.

Antennæ eleven-jointed, club rather loosely triarticulate, inserted in front of the eyes under the expanded frontal margin. Eyes moderately prominent, rather coarsely granulated, emarginate in front by the sides of the clypeus. Anterior coxæ not widely separated. Posterior coxæ separated by a triangular acute abdominal process. Anterior tibiæ serrulate at outer apical angle and with two spurs, the anterior larger and arcuate. Tarsi with the first joint moderately elongate especially the middle and posterior, clothed beneath with moderately long hair.

Our species are separated as follows:

Hind angles of thorax rectangular.
Anterior margin of thorax with thickened edge. Humeri distinctly dentiform ..... **paralellopipedum.**
Anterior margin not thickened but with two approximated dentiform elevations. Humeri not dentiform..... **longum.**
Hind angles of thorax obtuse.
Prosternum in front nearly smooth.
The two median lines of thorax nearly obliterated..... **tuberculatum.**
Prosternum in front scabrous or punctate.
The two median lines of thorax rather deeply impressed.. **ferrugineum.**

**A. parallelopipedum** Say, (*Colydium*) Journ. Acad. v, p. 263; *acquicolle* Lec. Proc. Acad. 1859, p. 81.

Piceous, moderately shining, legs and antennæ rufous, form oblong-elongate. Head moderately punctate, vertex obsoletely bituberculate. Thorax quadrate, apex slightly narrower and emarginate, base truncate, hind angles rectangular, sides very feebly arcuate from apex to base, disc with a sub-marginal impressed line limited externally by an elevation, another similar more internal, two feebly impressed sinuous lines at middle, between which and the adjacent carina the surface is elevated in an oblong tubercle near the apex; apical margin thickened; surface finely punctate. Elytra slightly wider than the thorax, humeri evidently dentiform, surface with rows of moderately fine closely placed punctures which become smaller toward the tip, intervals very finely punctulate. Body beneath moderately densely punctured. Prothorax more coarsely and densely. Length .18–.24 inch; 4.5–6 mm.

This species is so well known that it will serve as a point of comparison for our other species. In the ♀ the tubercle near the apex is very feeble or absent.

Widely distributed over the United States, one having been taken in California.

**A. longum** Lec. Proc. Acad. 1866, p. 378.

Rufo-piceous, moderately shining, more elongate and convex than the preceding. Head similar. Thorax longer than wide, sides parallel, slightly narrowed near the apex, sculptured similarly to *parallelopipedum* but with two central striæ nearly obliterated, the tubercles near the apex more elevated, the anterior margin not thickened, in the ♂ with two approximated dentiform elevations, ♀ simple. Elytra not wider than the thorax, humeri not dentiform, surface with faint traces of rows of punctures near the base, intervals very finely punctulate. Body beneath rather sparsely punctulate, under side of head and sides of prothorax more coarsely punctured. Length .18–.22 inch; 4.5–5.5 mm.

Occurs in Northern Arizona, Colorado and Oregon.

**A. tuberculatum** Lec. New Species, 1863, p. 67.

Elongate, sub-cylindrical, pale brownish, moderately shining, apical half of the elytra piceous. Thorax longer than wide, sides very feebly arcuate near the apex and base, hind angles very obtuse, apex without thickened margin but with two rather distant erect tubercles ♂, or simple ♀, disc with the sub-marginal and lateral carinæ, median lines almost entirely obliterated, anterior tubercles moderate ♂ or wanting ♀, surface sparsely punctulate. Elytra not wider than the prothorax, at base with nearly obsolete rows of punctures, intervals more finely punctulate. Body beneath and legs very sparsely punctulate, pale rufous. Length .18–.20 inch; 4.5–5 mm.

The humeral angles of the elytra are not dentiform. The head is as in *parallelopipedum*. This should be compared wtih *A. bicolor* of Europe.

Occurs in Georgia and Virginia.

**A. ferrugineum** Zimm. Trans. Am. Ent. Soc. 1869, p. 254.

Elongate, cylindrical, pale brownish, ferruginous, shining. Head punctulate, vertex not tuberculate. Thorax longer than wide, sides nearly straight, hind angles obtuse, apical margin not thickened, disc with the sub-marginal and lateral carinæ well developed, median impressed lines rather deep, converging in front, anterior tubercles obsolete, surface moderately punctate. Elytra not wider than the thorax, humeri not dentiform, surface finely punctulate with a very faint tendency to a striate arrangement near the base. Body beneath sparsely punctate. Prothorax more densely and coarsely. Length .14 inch; 3.5 mm.

This species is our smallest and most cylindrical. It differs from all the others in the absence of the tubercles of the vertex and is the only species in which the two lines at the middle of the disc are really well marked.

Occurs in Georgia and South Carolina.

## COLYDIUM Fab.

Antennæ arising under the side of the head, eleven-jointed, last three forming a rather loose club, antennal grooves wanting. Anterior coxæ moderately distant, posterior separated by a triangular acute inter-coxal process. Tibiæ slightly broader at tip, not denticulate at outer angle, each with two short terminal spurs; tarsi with the first joint moderately long, fourth not longer than the others together, clothed beneath with moderate hair. Abdominal segments gradually shorter. Form slender, elongate.

**C. lineola** Say, Journ. Acad V, p. 264; Entomology, ed. Lec. II, p. 324; *nigripenne* Lec. New Species, 1863, p. 67.

Slender, cylindrical, elongate, piceous, moderately shining. Head moderately punctured. Thorax longer than wide, slightly narrower posteriorly, hind angles obtuse, sub-marginal stria very close to the lateral margin, another stria one-fifth from the same, a deeper median impressed line, surface moderately coarsely punctured. Elytra not wider than the thorax,

base slightly elevated, each alternate interval finely costiform, interspaces between these biseriately punctate. Body beneath moderately coarsely punctate. Length .14–.26 inch; 3.5–6.5 mm.

This species varies in having the head and thorax rufous.

Occurs from Pennsylvania to Louisiana, also in Oregon and Vancouver.

*C. longiusculum* Say, loc. cit., is described as differing from the above in the absence of the median line. It has not been recognized since, and is considered doubtful.

**NEMATIDIUM** Erichs.

Antennæ eleven-jointed, club two-jointed, basal joint short, oval, partly uncovered, second cylindrical longer than the third, which is also longer than the fourth, four to nine short, gradually but very slightly broader, tenth trapezoidal, eleventh larger than the tenth, oval at tip and pubescent. Head slightly convex, feebly deflexed, antennal grooves distinct, rather deep, oblique. Eyes moderately coarsely granulate, sub-truncate in front. Anterior coxæ moderately separated by the prosternum which does not attain the hind margin of the thorax, the prosternal epimera meeting on the median line. Prothorax broadly concave at the sides for the reception of the legs, the sternal portion obtusely elevated, the lateral margin nearly entirely obliterated. Metasternal side pieces entirely concealed by the elytra. Abdomen with segments gradually decreasing in length, intercoxal process of the first very narrow and acute. Tibiæ with the apical angle prolonged, acute, and with two short terminal spurs. Tarsi slender, first joint elongate, longer than the next two together. Form linear, cylindrical.

The Rynchophorous affinities of this genus are not few nor unimportant, for besides the structure of the thorax beneath, the last joint of the antennæ has the anterior face and entire free margin pubescent while the posterior face is entirely glabrous as in many *Scolytidæ*. The almost entire absence of thoracic lateral margin is certainly a divergence from the *Colydiide* type, and an approximation to the *Scolytidæ*.

One species is known in our fauna which I am entirely unable to separate from a Brazilian form, and I am inclined to believe will prove to be *cylindricum* Fab.

**N. mustela** Pascoe, Journal of Entomology, II, 1863, p. 34, pl. 3, fig. 10; *filiforme* Lec. New Species, 1863, p. 68; ? *cylindricum* Fab. Syst. Elem. II, p. 557.

Elongate, cylindrical, slender, piceous or brownish, moderately shining.

Head moderately convex and punctate. Thorax twice as long as wide, apex and base equal, sides very feebly sinuate at middle, lateral margin almost entirely obliterated, surface moderately punctate. Elytra one-fourth longer than head and thorax, declivity slightly flattened, surface with finely punctured striæ, the sutural rather deeply impressed at the declivity, intervals with a single row of fine punctures. Body beneath sparsely, abdomen more densely punctate. Length .22–.26 inch; 5.5.–6.5 mm.

The identity of our species with *mustela* has been determined by comparison with one of Mr. Pascoe's specimens which Mr. Alex. Fry kindly gave to Dr. LeConte. I have very little doubt that the Fabrician name should prevail, but there is no other description published since the original, which is too short to enable one to identify the species in the absence of the type.

Occurs in North Carolina, Florida, Louisiana and in the Amazon region (Bates).

### **AGLENUS** Erichs.

Antennæ free at the base, eleven-jointed, first joint rather stout, second cylindrical as long as the first, third nearly as long as the second, four to eight sub-equal, gradually broader, last three joints forming a fusiform mass. No antennal grooves. Mentum broad and short, supported by a distinct gular peduncle. Terminal joint of palpi oval, slightly truncate at tip. Eyes entirely absent. Anterior coxæ small, globular, narrowly separated by the prosternum which is oval at tip, cavities open behind. Middle coxæ narrowly separated. Posterior coxæ transverse, separated by a triangular, abdominal process. Tibiæ very slightly dilated at tip, terminated by short spurs. Tarsi short, the first three joints short, equal, last joint nearly as long as these together. First joint of abdomen slightly longer than the others, which are sub-equal. Scutellum not visible between the elytra.

All authorities agree regarding the position of this genus so far as its family affinities go, and all leave it where Erichson and Lacordaire have placed it, but I can find no reference to its most important character in any of the books—*the open anterior coxæ*. Duval (Gen. Col. Eur.) states particularly that the first three abdominal segments are closely connate, this seems to me not so, and I believe there is a certain amount of mobility in *Aglenus*, and also in *Cerylon*, *Philothermus* and *Discoloma*. There is certainly not the same fixity of structure that we find in the preceding tribes.

This discussion leads me to speak of *Anommatus*, a genus not yet represented in our country, and which has been associated with *Aglenus*, but removed by Duval to the LATHRIDIIDÆ. The latter determination appears to have been based on the mobility of the abdominal segments, and considering the present constitution of that family, as shown by the Munich Catalogue, Duval's idea at that time was not far wrong, the only wonder being that more genera did not get there. A comparison of *Aglenus* and *Anommatus*, indicates that they cannot be remotely separated, notwithstanding the fact that the abdomen is more mobile, and the tarsi three-jointed in the latter, their general similarity of structure, and the open anterior coxæ seem to have more weight in determining their association than any other characters have in separating them. The structure of the anterior coxæ and the form and narrowness of the sternum of *Anommatus* greatly resemble *Deretaphrus*, except that the latter has the coxal cavities closed behind while in the former they are open.

One species of *Aglenus* occurs in our fauna, probably introduced.

**A. brunneus** Gyll. (*Hypophlæus*) Ins. Suecc. III, p. 711; Duval Gen. Col. Eur. II, pl. 46, fig. 226; *Anommatus obsoletus* Shuck. Brit. Col. Delin. pl. 33, fig. 2.

Elongate-oval, brownish, shining, surface very sparsely punctate. Thorax very little longer than wide, sides feebly arcuate, margin very narrow. Elytra oval, emarginate at base, humeri rectangular. Body beneath sparsely punctured, rather more densely on the abdomen, and more coarsely than the upper surface. Length .06 inch; 1.5 mm.

This species has occurred in our territory only at St. Louis, Mo., whence specimens have been sent me by Mr. Maurice Schuster.

### Tribe IV. DERETAPHRINI.

Antennæ capitate, retractile, base free. Head deflexed, vertex convex, mouth inferior. Anterior coxæ globular, more prominent than the prosternum which is deeply depressed between them, contiguous or feebly separated, the cavities closed behind. Middle coxæ moderately separated, very closely approximated in *Oxylæmus*. Posterior coxæ at least moderately separated. Metasternal side pieces narrow. Abdomen with first

segment at least as long as the next two, 2–3–4 equal, fifth longer. Tarsi variable, long in two genera, rather short in *Oxylæmus*.

Our genera are three in number.

Tarsi rather short, the first three joints not as long as the fourth. Antennæ ten-jointed, club solid. Anterior coxæ contiguous, their cavities very narrowly closed behind.....**Oxylæmus.**

Tarsi moderately long, first three joints longer than the fourth. Antennæ eleven-jointed, club three-jointed, anterior coxæ distinctly separated, their cavities distinctly closed behind.....**Deretaphrus.**

Tarsi long, first joint always longer than the next two together, and that of the middle tarsus much longer. Antennæ eleven-jointed, club two-jointed. Anterior coxæ contiguous, their cavities distinctly closed behind.....**Sosylus.**

In *Oxylæmus* the point of the prosternum is not visible behind the coxæ, and when the prothorax is not disarticulated the cavities are apparently open behind. They are really narrowly closed by the extension of the epimera to the slender point of the prosternum. In the other two genera the point of the sternum is distinctly visible behind the coxæ. *Deretaphrus* is further remarkable for the transverse impression immediately in front of the anterior coxæ.

*Deretaphrus* occurs in Oregon; the other two genera have representatives on both sides of the continent.

### **OXYLÆMUS** Erichs.

Antennæ ten-jointed, terminated by an abrupt club consisting of the enlarged glabrous tenth joint, at the tip of which the eleventh appears as a pubescent space, base free. Head beneath without antennal grooves. Eyes round, moderately coarsely granulated. Anterior coxæ contiguous, the cavity narrowly closed behind, prosternum extremely narrow, deeply depressed between the coxæ. Middle coxæ very closely approximated. Posterior coxæ separated by a triangular intercoxal process. Anterior tibiæ with the outer apical angle acute, slightly prolonged, and with two fine denticles at middle, middle and posterior tibiæ spinulose near the tip, all the tibiæ with short terminal spurs. Tarsi rather short, the first three joints together shorter than the fourth.

The anterior coxæ have been described as open behind, this has not been found accurate. On breaking a specimen it will be seen that the coxæ are rather prominent and conceal not only the point of the sternum, but also the extension of the

epimera, so that while a specimen remains entire, the anterior coxal cavities seem to be open.

Two species are known in one fauna, one from each side of the continent and differing as follows:

Thorax very little longer than wide, first abdominal segment punctured only in front.....americanus.

Thorax one third longer than wide, first abdominal segment very coarsely punctured over its entire surface.....californicus.

The latter species is much more closely allied to the European *O. cæsus* than the former.

**O. americanus** Lec. New Species, 1863, p. 68.

Elongate-cylindrical, ferruginous, shining, very sparsely clothed with semi-erect hairs. Head coarsely and deeply punctured. Thorax very little longer than wide, sides feebly arcuate, disc convex, coarsely and deeply but not densely punctured. Elytra scarcely wider than the thorax, disc with rows of moderately coarse punctures rather closely placed. Body beneath coarsely and deeply punctured. Abdominal segments punctured along their margins, the first segment coarsely punctured between the coxæ. Length .10–.12 inch; 2.5–3 mm.

Occurs in Pennsylvania, but rare.

**O. californicus** Crotch, Trans. Am. Ent. Soc. 1874, p. 75.

Thorax one-third longer than wide, very coarsely and deeply punctured, median line smooth, on each side at base a deep linear impression extending one-half to apex. Elytra feebly striate at base, and with rows of coarse, subquadrate punctures closely placed. Body beneath coarsely punctured. Length .12–.14 inch; 3–3.5 mm.

In all other respects this species agrees with the preceding.

Occurs in Calaveras County, California.

## DERETAPHRUS Newm.

Antennæ at base free, received in deep, oblique grooves, eleven-jointed, last three forming a flattened mass truncate at tip. Head convex, deflexed, mouth inferior, in great part concealed by a prominent gular plate and the sides of the genæ, mentum retracted. Anterior coxæ moderately prominent, separated by a very narrow depressed sternum. Middle coxæ moderately distant. Posterior coxæ oval, separated by a quadrangular process, oval at tip. Anterior tibiæ moderately dilated, the apical angle prolonged, the outer margin finely bidenticulate, and with two terminal spurs, the anterior stouter and longer. Middle tibiæ rather less dilated, outer edge multidenticulate, two terminal spurs, the anterior longer. Posterior tibiæ similar to the middle, outer edge simple. Tibiæ within sparsely fimbriate. Tarsi moderately stout, first three joints gradually decreasing in length, fourth but little longer than the first.

**D. oregonensis** Horn, Trans. Am. Ent. Soc. 1872, p. 146.

Cylindrical, black, opaque. Head finely punctate. Thorax one-half longer than wide, base narrower than apex, sides in front feebly arcuate, basal half gradually sinuate, hind angles rectangular, disc sparsely punctate, a deeply impressed median line, not attaining the apex and divided into two unequal portions, and attaining the basal marginal line. Elytra with three discal costæ and margin moderately elevated, intervals with two rows of coarse, deep punctures not closely placed. Body beneath sparsely punctate, abdomen more finely. Length .42 inch; 10.5 mm.

This species bears a close resemblance to *fossus* Nm. and differs in the deeper thoracic line which more nearly attains the basal edge of the thorax, and by the costæ being much more elevated, especially that of the third interval, which is scarcely at all elevated in *fossus*.

Occurs in Oregon, and does not appear to be rare. It may be worthy of mention that the other species of this genus are from Australia.

**SOSYLUS** Erichs.

Antennæ eleven-jointed, last two joints forming an abrupt club, base free, received in repose in oblique grooves on the under side of the head, first joint oval, gibbous in front, so that the second joint appears to arise from the posterior side, second joint cylindrical, longer than the third, 3–9 about equal, ten and eleven forming an abrupt club, the eleventh longer than the tenth, and nearly semi-circular. Mentum not retracted, gular peduncle not prominent. Anterior coxæ contiguous, their cavities apparently confluent. Middle coxæ closely approximated. Posterior coxæ small, rounded, rather widely separated by a quadrangular process, arcuate in front. Anterior tibiæ moderately dilated, the apical angle prolonged, two terminal spurs, the anterior long and arcuate, the posterior small. Middle tibiæ similar to the anterior, but less prolonged at tip. Posterior tibiæ still less dilated, spurs small but unequal. Tarsi elongate, longer than the tibiæ, first joint nearly as long as the others together. First abdominal segment as long as the next three together, two to five gradually decreasing in length.

Our species are two in number.

Elytral intervals moderately densely punctulate. Genæ simple..**costatus.**
Elytral intervals sparsely punctate. Genæ with a dentiform prolongation on each side.....**dentiger.**

The latter character deserves more than a passing mention. It consists in a pyramidal prolongation downward of the sides of the genæ, being the extension of the ridge limiting the antennal groove in front. I can not recall the occur-

rence of any similar structure anywhere in the coleopterous series except in *Hypocephalus*, an insect without known relations. The appearance here of one of the peculiar characters of that genus has weight in confirming the view held by LeConte, of its Clavicorn affinities, and while we find this small link, it must not be forgotten that there are certain Rhynchophorous affinities in *Hypocephalus* as well as in several genera of the family now under consideration.

**S. costatus** Lec. New Species, 1863, p. 68.

Elongate, cylindrical, piceous, moderately shining. Head aciculate punctate. Thorax one-third longer than wide, narrowed at base, disc aciculate punctate, moderately convex. Elytra not wider than thorax, base feebly emarginate, basal margin at middle rather strongly reflexed, disc with four finely elevated lines, costiform at tip, and a fine sub-humeral stria, intervals sub-opaque, moderately densely and irregularly finely punctured, body beneath rather coarsely but not densely punctured. Length .16–.18 inch; 4–4.5 mm.

The sides of the genæ are merely slightly elevated in a plate, being a feeble reproduction of *Deretaphrus*, the antennal grooves are consequently less strongly marked than in the next species.

Occurs in South Carolina and Florida.

**S. dentiger,** n. sp.

Form and facies of the preceding differing as follows:

Head and thorax less densely punctured. Elytral lines more distinctly elevated, intervals irregularly, biseriately, sparsely punctulate. Length .20 inch; 5 mm.

The most marked distinction between these two species is in the presence of the pyramidal genal process already mentioned. Whether this character exists in any of the Brazilian species, I cannot say, as Mr. Pascoe systematically avoids all mention of the under surface of the majority of the *Colydiidæ* he describes.

Two specimens; Cape San Lucas, Lower California. I have also a specimen collected by Mr. Wm. M. Gabb in the Island of Santo Domingo, not distinguishable in any manner from those from Lower California.

Tribe V. **PYCNOMERINI.**

Antennæ capitate, retractile, inserted under a moderate frontal margin. Head horizontal, eyes rounded, coarsely granulated, feebly prominent. Anterior coxæ rounded, rather widely separated, closed behind. Middle coxæ distant. Posterior coxæ small, oval, very distant. Metasternal side pieces narrow. Abdominal segments sub-equal. Trochanters of all the femora free. Anterior tibiæ slightly dilated at tip, and with two unequal spurs. Tarsi moderate, first joint longer than either of the two following, the third longer than the fourth.

This tribe connects naturally with the preceding through *Oxylæmus*, but the affinities are very slight.

Two genera are known, both from the Atlantic region.

Antennæ 11-jointed, club 2-jointed.....**Penthelispa.**
Antennæ 10-jointed, club solid. .....**Pycnomerus.**

**PENTHELISPA** Pasc.

*Endectus* Lec. Class, Col. N. A. p. 91.

Antennæ eleven-jointed, terminated by a two-jointed club, inserted under a slight frontal margin, and without antennal grooves. Gula with a lateral ridge extending backward beneath the eyes, which are round and moderately prominent. Anterior tibiæ with outer apical angle prolonged, armed at tip with two spurs, the anterior longer and curved, middle and posterior dilated feebly at tip, and with two short terminal spurs. Trochanters distinct on all the legs. Abdominal segments decreasing gradually in length, the fifth slightly longer than the fourth and concave.

The characters of this genus otherwise do not differ much from *Bothrideres*. Mr. Pascoe says that the tibiæ are terminated by two or three spurs, which is to say the least a very loose expression, as no coleopterous insect ever has three spurs normally.

The principal differences between this genus and *Bothrideres* are the mode of insertion of the antennæ, the absence of antennal groove, the presence of trochanters on all the femora, and lastly the structure of the abdomen. The coxæ are all more approximated than in *Bothrideres*.

The following species occur in our fauna:

Thorax slightly wider than long, not narrowed behind, hind angles prominent.....**hæmatodes.**
Thorax longer than wide, slightly narrowed behind, hind angles not prominent.....**reflexa.**

**P. hæmatodes** Fab. (*Colydium*) Syst. El. II, p. 562; Say (*Lyctus*) Journ. Acad. V, p. 262; Am. Entom. edit. Lec. II, p. 323.

Moderately elongate, brownish, shining. Head coarsely punctured, front on each side impressed. Thorax slightly wider than long, not narrowed posteriorly, apex feebly emarginate, base broadly arcuate, the angles slightly prominent posteriorly, sides sinuate at middle, margin moderately reflexed, disc with a feeble longitudinal impression divided by a slightly elevated median line, surface coarsely, deeply and densely punctured. Elytra slightly wider than the thorax, base feebly emarginate, disc flattened, surface deeply and broadly striate, the striæ coarsely, deeply and closely punctured, intervals very narrow. Body beneath coarsely and deeply punctured. Length .14 inch; 3.5 mm.

Occurs from Pennsylvania to Texas, but not common.

**P. reflexa** Say, (*Lyctus*) Journ. Acad. V, p. 262; Am. Ent. edit. Lec. 322; *nitidus* Lec. (*Endectus*) New Species, p 69.

Thorax longer than wide, hind angles distinct but not prominent, sides extremely feebly sinuate at middle, straight or even slightly arcuate, margin narrowly reflexed, disc coarsely, deeply and densely punctured, median line sometimes smooth for a short distance at middle. Length .16 –.20 inch; 4–5 mm.

In all other characters this species agrees with *hæmatodes*.

Occurs from Pennsylvania to Georgia.

### PYCNOMERUS Erichs.

The only real difference between this genus and *Penthelispa* is, that the eleventh joint of the antennæ is closely united with the tenth, so that the club is solid and apparently one-jointed, glabrous at base, pubescent at tip.

**P. sulcicollis** Lec. New Species, 1863, p. 69.

Moderately elongate, castaneous, shining. Head sparsely punctured, front deeply impressed each side. Thorax slightly longer than wide, base very little narrower than apex, hind angles rectangular, sides very feebly arcuate, margin slightly reflexed, more distinctly in front, disc with two broad grooves at middle, which do not attain the apex or base, separated by the finely elevated median line, surface sparsely punctate. Elytra very little wider than the thorax, disc convex, striate, striæ with coarse, deep, elongate punctures. Body beneath coarsely and moderately densely punctured. Length .14 inch; 5.5 mm.

This insect has considerable resemblance to *P. hæmatodes*.

Occurs in the Southern States.

### Tribe VI. BOTHRIDERINI.

Antennæ capitate, retractile, at base free, insertion almost frontal, and close to the eye. Head deflexed, eyes coarsely granulated, rounded or slightly transverse. Anterior coxæ small, rounded, widely separated,

closed behind, although very narrowly in *Bothrideres*. Middle coxæ widely separated. Posterior coxæ small oval, very widely separated. Metasternal side pieces narrow. Ventral segments unequal, the first elongate, the next three sub-equal, the fifth slightly longer. Trochanters closely connate with the femora. Tarsi moderate, first joint always longer than either of the two following, the three longer than the fourth. Anterior tibiæ with one terminal spur.

Of the genera placed here by Erichson, *Bothrideres* alone remains. As a tribe this is probably the best defined of all, exhibiting in our fauna less affinity with the other tribes than they do among themselves.

Our genera are two in number.

Head horizontal or nearly so; anterior coxæ narrowly closed behind, tibiæ not prolonged at outer angle.

Antennæ 11-jointed, club 2-jointed.....**Bothrideres.**

Head deflexed; outer angle of anterior tibiæ prolonged; anterior coxæ very distinctly closed behind.

Antennæ 11-jointed, club 2-jointed.....**Machlotes.**

(Antennæ 9-jointed, club with one solid joint.....**Emmaglæus.**)

The latter genus has no place in our fauna, but has been introduced to show its correct position. Fairmaire describes the antennæ as 11-jointed, but I can find but nine, the structure of these, and an excellent figure being given by Lacordaire, Genera, Atlas, pl. 17, fig. 5, reference to which is omitted in the Munich Catalogue.

### **MACHLOTES** Pasc.

*Prolyctus* Zimm. Trans. Am. Ent. Soc. 1869, p. 274.

Antennæ eleven-jointed, terminated by a small club of two joints, first joint stout, oval, second a little longer than the next, three to nine small, equal, tenth triangular truncate, eleventh small, transversely oval, partially retractile; base of antennæ free, received in repose in short, oblique grooves. Head deeply inserted, broader than long, deflexed, side margin acutely incised over the insertion of the antennæ. Eyes transversely oval, moderately prominent, coarsely granulated. Gular region deeply emarginate, the lateral plates concealing the maxillæ, mentum short, transverse, deeply, transversely impressed, last joint of palpi elongate conical. Anterior coxæ widely distant. Middle coxæ equally distant. Posterior coxæ small, oval, very widely distant. Anterior tibiæ dilated at tip, the outer apical angle spiniform, outer edge with few denticulations, terminated by a single stout spur. Middle and posterior tibiæ not dilated, terminated by two short spurs. Trochanters of all the legs connate, with the femora without suture. Tarsi not elongated, first and fourth joints sub-equal, either

nearly as long as the second and third together. Abdomen with first segment as long as the next three together, joints two to five gradually shorter. Thorax and elytra costate, the former with a deep, transverse impression posteriorly.

This genus was described by Mr. Pascoe in the Journal of Entomology II, p. 36, for certain East Indian species allied to *Bothrideres*, to which must be added our *B. exaratus*. Closely allied to this genus is *Emmaglœus* Fairm., which differs in the presence of a distinct groove on the under side of the thorax indicating the suture between the pronotum, and the prosternal side pieces, and also in the structure of the antennæ, and sculpture of the surface. Both genera have the side of the front incised at the end of the frontal suture over the insertion of the antennæ, and there are distinct coxal lines on the first abdominal segment as in several of the genera of *Monotomidæ*.

**M. exaratus** Mels. (*Bothrideres*) Proc. Acad. II, p. 111; *geminatus* Hald. Proc. Acad. I, p. 104.

Form oblong, black, opaque. Head coarsely and moderately densely punctured. Thorax broader than long, apex emarginate, angles slightly prominent in front, base feebly arcuate, sides gradually arcuate and slightly narrowed to base, disc feebly convex, on each side three carinæ, the outer entire, the inner extending two-thirds slightly sinuate and converging toward the middle of the apical margin; posteriorly, at basal third is a deep, transverse impression, from which less deep impressions proceed to the hind angles and toward the scutellum; in front of the deep impression are two oval tubercles not elevated above the surface of the disc, surrounded by a deep groove; intervals moderately, coarsely punctured. Elytra wider than the thorax, elongate oval, humeri oblique, each elytron with four costæ, and margin acutely elevated, and a distinct sutural stria, intervals obsoletely punctulate. Prothorax coarsely punctured beneath, body less coarsely. Abdomen sparsely and rather finely punctate, first segment with two parallel coxal lines nearly attaining the posterior margin, the first three segments in addition a fine sub-marginal line at the sides. Length .16–.26 inch; 4–6.5 mm.

This insect occurs especially in the Southern States.

**BOTHRIDERES** Erichs.

Antennæ eleven-jointed, last two forming an oval club, received in repose in oblique antennal grooves, insertion exposed by an incision of the sides of the front. Head prominent, horizontal, eyes oval, prominent, coarsely granulated. Trochanters of anterior legs distinct, those of middle and posterior connate, with the femora without suture. Thorax more or

less excavated at middle, and without elevated lines. Humeri rounded, the angle incurved. In its other characters this genus agrees with *Machlotes*.

Two species occur in our fauna.

Thorax rather deeply excavated, abdomen sparsely punctulate..**montanus.**
Thorax vaguely concave, abdomen coarsely and deeply punctate.**geminatus.**

**B. montanus,** n. sp.

Oblong, moderately elongate, ferruginous brown, shining, very sparsely pubescent. Head coarsely and moderately densely punctured. Thorax longer than wide, narrower at base, apex emarginate, angles slightly prominent, base arcuate, sides feebly arcuate, a small tooth at the middle of the margin, posterior angles distinct, disc with two deep foveæ at middle, the anterior larger, surface coarsely and densely punctured, sparsely pubescent. Elytra slightly broader than the thorax, moderately elongate, base emarginate, humeri rounded, the tip of humeri inflexed, disc moderately convex, surface striate, striæ punctured, intervals alternately more elevated, pubescent and distinctly punctured, the seventh sub-costiform, intermediate intervals flat, smooth. Prothorax beneath coarsely and deeply punctured. Abdomen rather sparsely and finely punctured. Femora sparsely punctured, tibiæ densely punctured and pubescent. Length .18–.24 inch ; 4.5–6 mm.

Taken by Mr. H. K. Morrison in the mountains near San Juan, Colorado.

**B. geminatus** Say, (*Lyctus*) Journ. Acad. V. 262; Am. Ent. edit. Lec. II, p. 323.

Oblong, moderately elongate, ferruginous or brownish, moderately shining. Head densely and moderately coarsely punctured. Thorax longer than wide, narrower behind, apex feebly emarginate, sides feebly arcuate, a feeble dentiform tubercle at middle of margin, disc vaguely concave, coarsely and moderately densely punctured, a smooth spot at middle of apical margin. Elytra as in the preceding, disc flat ♂ or slightly convex ♀, surface striate, striæ finely punctured, intervals alternately wider, the wider intervals with a single series of punctures, and slightly pubescent, the narrower smooth. Body beneath coarsely and deeply punctured. Legs as in the preceding. Length .10.–18 inch ; 2.5–4.5 mm.

This species differs in many characters from the preceding, the thoracic, elytral and abdominal sculpture being the most important.

Appears to be widely diffused, occurring in the Atlantic region, extending west to Kansas and south to Texas, also in the Island of Santo Domingo (Gabb).

Tribe VII. **CERYLONINI.**

Antennæ capitate, retractile, free at base, insertion frontal. Head retracted, slightly deflexed, eyes round, moderately coarsely granulated. Anterior coxæ round, rather narrowly separated. Middle coxæ more widely separated. Posterior coxæ oval, widely separated. Metasternal side pieces extremely narrow. First ventral segment as long as the three following together, 2–4 short, equal, fifth slightly longer. Palpi with the terminal joint acicular, the penultimate ovoid. First three joints of tarsi short, together shorter than the fourth.

For the present, two genera may be considered as consituting this tribe in our fauna, although it might with propriety be divided into two.

Anterior coxæ closed behind.
Anterior 10-jointed, club with one joint.....**Cerylon.**
Anterior coxæ open behind.
Antennæ 11-jointed, club 2-jointed.....**Philothermus.**

In the latter genus I have observed a distinct onychium with two terminal setæ, this character has entirely escaped me in the other genera if it exists.

From this tribe I have removed *Murmidius* and *Mychocerus* placed here by Crotch and Erichson, to follow the example of Duval in forming for them a distinct family.

**CERYLON** Latr.

Antennæ ten-jointed, terminated in a club of one joint, evidently the union of two, insertion almost frontal, without antennal grooves. Head small, deeply inserted, narrowed in front of the insertion of the antennæ. Eyes narrow, transverse. Palpi with last joint small, acicular, penultimate, large, ovoid. Anterior coxæ widely distant, the prosternum broad and dilated behind them. Middle coxæ more distant than the anterior. Posterior coxæ small, oval, very widely distant. Tibiæ slightly broader toward the tip; with small terminal spurs. Trochanters evident. Abdomen with first segment nearly as long as the others together, the next four segments equal. Scutellum small, transverse.

I have examined our species with a great deal of care on a large series of specimens, and am entirely unable to find more than one true species.

**C. castaneum** Say, Jour. Acad. V, p. 259; Am. Ent. edit. Lec. II, p. 321; *unicolor* Zieg. Proc. Acad. II, p. 70; *simplex* Lec. Pac. R. R. Rep. 47 par. Vol. IX, App. 1, p. 39; *angustulum* Lec. New Species, 1863, p. 69.

Oblong-elongate, castaneous or piceous, shining, depressed. Head

sparsely punctate. Thorax nearly square, sides in front slightly arcuate, hind angles rectangular, disc depressed or very feebly convex, a slight impression on each side of middle at base, surface rather coarsely but not densely punctured. Elytra scarcely wider at base than the thorax, sides feebly arcuate, disc depressed, surface striate, striæ punctured. Body beneath rather sparsely punctate. Length .08–.12 inch ; 2–3 mm.

This species occurs over our entire country from the Atlantic to the Pacific, and from Hudson's Bay to Texas.

### PHILOTHERMUS Aubé.

Antennæ eleven-jointed, last two joints forming an abrupt club, the terminal joint longer than the tenth, second and third joints moderately long equal, inserted as in *Cerylon*, antennal grooves absent. Head and palpi as in *Cerylon*. Anterior coxæ moderately separated, the prosternum oval at tip, coxal cavities open behind. Tibiæ slightly broader from the base, narrowed at tip, the apical angle not prolonged, and without terminal spurs. Middle coxæ more distant than the anterior. Posterior coxæ widely distant. Trochanters distinct on all the femora. First abdominal segment as long as the next three together, segments two to five nearly equal. Scutellum transverse. Tarsi with the first three joints very short, very little longer together than half the fourth.

The points of difference between this genus and *Cerylon*, with which it has been associated, are many. The most important is the open anterior coxæ, following which in value is the structure of the antennæ, and lastly the form of the tibiæ which resemble *Cicones*, and have no spurs.

Two species are known in our fauna.

Body beneath rather sparsely punctured, above glabrous ; punctures not attaining the tips of the elytra which are nearly smooth . **glabriculus.**

Body beneath coarsely and deeply punctured, above pubescent ; punctures attaining the tips of the elytra ..... **puberulus.**

**P. glabriculus** Lec. New Species, 1863, p. 69.

Elongate-oval, castaneous, shining, glabrous. Head sparsely punctate. Thorax broader than long, broader at base, apex emarginate, base feebly bisinuate, sides regularly arcuate from apex to base, margin moderately reflexed, disc sparsely and regularly punctate. Elytra not wider than the elytra, and with rows of rather coarse punctures not closely placed, evanescent at the tip, striæ not impressed. Body beneath sparingly punctate, especially along the middle. Length .08–.12 inch ; 2–3 mm.

This species occurs especially in the Atlantic States proper, not extending westward.

**P. puberulus** Schwarz, *ante*, p. 361.

Elongate-oval, castaneous, shining, surface sparsely clothed with short, erect hairs. Thorax rather coarsely but sparsely punctate, margin more narrowly reflexed. Elytra with rows of moderately coarse punctures which attain the tip of the elytra, but become somewhat feebler at tip. Body beneath with coarse sparse punctures. Length .08 inch nearly ; 2 mm.

This species although quite distinct from *glabriculus* in appearance has but little to distinguish it except the pubescent surface, the coarser abdominal punctuation, and a somewhat more elongate and compact antennal club.

Collected by Messrs. Hubbard and Schwarz at Sand Point, Florida. I have a specimen from Arizona not differing except that the surface sculpture is a little less strongly marked.

NOTES ON DISTRIBUTION OF GENERA AND SPECIES.

| | |
|---|---|
| Species peculiar to the Eastern States | 26 |
| Species peculiar to the Pacific Region | 13 |
| Species common to these two regions, *Aulonium parallelopipedum, Colydium lineola, Cerylon castaneum, Philothermus puberulus.* | |
| Species occurring from Colorado to the Pacific, *Lasconotus complex, Aulonium longum.* | |
| Species occurring in Lower California and Santo Domingo, *Sosylus dentiger.* | |
| Species occurring in the Gulf States and Brazil, *Nematidium mustela.* | |
| Species common to Europe and United States, *Aglenus brunneus.* | |
| Genera represented only in the Eastern States | 8 |
| Genera represented only in the Pacific Region | 5 |
| Genera common to these two regions | 10 |
| Genera common to Europe and United States | 13 |
| of which there occur both on the Atlantic and Pacific | 8 |
| in the Atlantic Region only | 4 |
| in the Pacific Region only (*Endophlœus*) | 1 |
| Genera peculiar to United States (2 Pacific, 1 Atlantic) | 3 |
| Genus occurring only in Oregon and Australia | *Deretaphrus.* |

The following genera have been placed with the *Colydiidæ*, and, as mention has been already made of their exclusion, it is proper that they should be appended to the main essay.

## MURMIDIIDÆ.

The differences between this family and the Colydiidæ have been pretty fully dwelt upon by Duval in the Genera of Coleoptera of Europe, so that comparatively little may be added.

The parts of the mouth are very difficult to examine, but those of *Mychocerus* seem not remarkably different from those of *Cerylon*, especially in the form of the palpi. The head is completely retractile in *Murmidius* and the parts of the mouth are concealed beneath by a distinct prosternal lobe, while in *Mychocerus* the head is less retracted and the lobe very short. The antennæ are rather frontal in their insertion resembling the Histeridæ, ten-jointed, terminated by a solid club composed evidently of two joints united, the basal joint is stout, and the joints of the funicle are suddenly geniculate, the club being received either in a cavity at the anterior angle of the thorax, open above (*Murmidius*), or in a cavity in the front of the anterior angle not opening above (*Mychocerus*). The anterior coxæ are small and round, their cavities open behind, but completed by excavations in the anterior border of the mesosternum, which is closely applied to the posterior edge of the prothorax. The middle coxæ are small and as distant as the anterior. The posterior coxæ are small, very slightly oval and almost completely surrounded by the metasternum in front and the first abdominal segment behind. The prosternum is broad, flat and bistriate. The metasternal side pieces are concealed by the epipleuræ in *Murmidius* but are quite distinct in *Mychocerus*. The legs are retractile and received in excavations at the sides of their respective sterna, the cavities for the posterior being partly in the first abdominal segment. The abdomen is as in *Cerylon*, the first segment being long the others short and each slightly shorter than the preceding. The tarsi are four-jointed, the last joint being as long as the others together.

The essential difference between this family and the Colydiidæ are found in the presence of the antennal cavities and their position, the presence of a prosternal lobe more or less marked, the structure of the anterior coxal articulation, the legs retractile and finally the structure of the posterior coxal cavities. In the latter character there is some resemblance to *Discoloma*.

The resemblances to the Histeridæ entirely escape me except in the retractility of the legs, while the structure of the anterior coxæ is so widely different in the two families as to completely outweigh the more trifling similarities.

Two genera represent this family in our fauna which differ as follows :

Antennal cavity visible from above ; prosternal lobe well marked concealing the parts of the mouth beneath ; metasternal side pieces concealed by the epipleuræ.....**Murmidius.**

Antennal cavity opening in front, not visible from above ; prosternal lobe truncate ; metasternal side pieces with the sutures very evident.....**Mychocerus.**

### **MURMIDIUS** Leach.

The clypeus is broader before the insertion of the antennæ and the labrum retracted. The antennal cavities are distinctly visible from above. The epipleuræ although narrow, cover completely the metasternal side pieces so that these are only visible at the posterior extremity (in the excavation for the leg) where they turn slightly inward to meet the coxæ.

**M. ovalis** Beck, Beitr. bair. Faun. 1817, 1 ; Duval, Gen. Col. Eur., pl. 56, fig. 276.

Ovate, convex, brownish, shining, sparsely clothed with an extremely fine pubescence. Thorax transverse, narrower in front, surface very finely punctulate and with a slight depression above the antennal cavity. Elytra with rows of distant punctures which become rapidly evanescent toward the apex and sides. Beneath very sparsely punctulate. Length .05 inch ; 1.25 mm.

This insect is very rare in our country and has probably been introduced. Specimens were given me by Mr. O. E. Janson, of London, England, who found them abundantly in some old straw.

### **MYCHOCERUS** Erichs.

Zimmerman, Trans. Am. Ent. Soc., 1869, p. 255.

Labrum visible, parts of mouth visible from beneath, prosternal lobe short. Antennal cavity at the anterior angle of the thorax, not visible from above. Epipleuræ wider than in *Murmidius*, not covering the metasternal side pieces.

So many of the characters have been given among the generalizations at the head of the family and by Zimmerman that it is not necessary to repeat them here.

**M. depressus** Lec. (*Murmidius*) Proc. Acad. 1866, p. 376 ; Zimm. loc. cit.

Broadly oval, depressed, ferruginous brown, sparsely pubescent. Thorax transverse, sparsely punctulate, sides moderately arcuate and narrow in front, base slightly narrower than the elytra. Elytra with rows of moderately coarse punctures which gradually become feebler toward the sides and tip. Body beneath very sparsely punctate. Length .04 inch ; 1 mm.

This species occurs from District of Columbia to South Carolina, and very rare.